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(54) **COAXIAL WAVEGUIDE
MICROSTRUCTURES AND METHODS OF
FORMATION THEREOF**

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333/244, 238; 174/117 AS; 29/828
See application file for complete search history.

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(57) **ABSTRACT**

Provided are coaxial waveguide microstructures. The micro-
structures include a substrate and a coaxial waveguide
disposed above the substrate. The coaxial waveguide
includes: a center conductor; an outer conductor including
one or more walls, spaced apart from and disposed around
the center conductor; one or more dielectric support mem-
bers for supporting the center conductor in contact with the
center conductor and enclosed within the outer conductor;
and a core volume between the center conductor and the
outer conductor, wherein the core volume is under vacuum
or in a gas state. Also provided are methods of forming
coaxial waveguide microstructures by a sequential build
process and hermetic packages which include a coaxial
waveguide microstructure.

26 Claims, 18 Drawing Sheets

